2012 Malmstrom AFB
Consumer Confidence Report

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Environmental Protection Agency (EPA) Safe Drinking Water Act. This report is designed to inform you about the drinking water Malmstrom AFB provides every day. Our number one goal is to provide you and your family a safe and dependable supply of drinking water. This report also provides details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best resource.

Where does my water come from?
Malmstrom AFB, Public Water System MT0000515, is "consecutive" to the city of Great Falls drinking water distribution system. The Great Falls Water Treatment Plant supplies drinking water to Malmstrom AFB after filtering and disinfecting Missouri River water.

Description of water treatment processes
Disinfection involves the addition of chlorine or other disinfectants to inactivate disease-causing (pathogenic) organisms. Disinfection is considered to be one of the major public health advances of the 20th century. The Great Falls Treatment Plant first disinfects Missouri River water with gaseous chlorine. After filtration, the plant converts residual chlorine into monochloramine. Malmstrom AFB performs a final monochloramine adjustment at the pumping plant before distributing the finished drinking water.

Why are there contaminants in my drinking water?
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.
- pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of

certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Do I need to take special precautions?
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

How can I become involved?
Please contact the Bioenvironmental Engineering Flight at 406-731-4406 regarding any Malmstrom AFB drinking water questions.

Additional information for lead
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Malmstrom AFB is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at http://www.epa.gov/safewater/lead.

Additional information for copper
Copper is an essential nutrient, but some people who drink water containing copper, in excess of the action level over a relatively short amount of time, could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

City of Great Falls water quality information
Please see the City of Great Falls Public Drinking Water Supply Consumer Confidence Report (CCR) for more information on the quality of finished drinking water being supplied to Malmstrom AFB. In addition, the Great Falls CCR contains information on the source water assessment and its availability. The Great Falls CCR is available on the Malmstrom AFB website at www.malmstrom.af.mil.

For any questions, more information, or a printed copy of this CCR, please contact Major Brian Clarke, Bioenvironmental Engineering Flight Commander at 406-731-4406 or write the Bioenvironmental Engineering Flight at 341 MDOS/SGOJ, 7300 N. Perimeter Rd., Malmstrom AFB, MT 59402-6780. Printable versions can also be obtained through a link on www.malmstrom.af.mil and an internet link published in the base newspaper, the *Front Range Guardian*.

Malmstrom AFB Drinking Water Quality Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. All drinking water sources contain naturally occurring contaminants. At low levels, these substances are generally not harmful. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in calendar year 2012. EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. This means that, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table. For more information regarding contaminants detected by the city of Great Falls before the connection to Malmstrom AFB, please see the city of City of Great Falls Public Drinking Water Supply CCR at www.malmstrom.af.mil.

Detected Contaminants – Malmstrom AFB Drinking Water System									
Contaminants		MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range Low	Range High	Sample Date	Violation	Typical Source
Disinfectant By-Products – through 3rd Quarter 2012									
Total Trihalomethanes (TTHM) (ppb)		NA	80	53	50	57	12/1/2011 2/3/2012 5/31/2012 9/27/2012	No	By-product of drinking water disinfection
Haloacetic Acids (HAA5) (ppb)		NA	60	11	7	15	12/1/2011 2/3/2012 5/31/2012 9/27/2012	No	By-product of drinking water chlorination
Disinfectant By-Products – 4th Quarter 2012									
TTHMs (ppb)	Site #1	NA	80	52	52	52	12/5/2012	No	By-product of drinking water disinfection
	Site #2			48	48	48			
HAA5 (ppb)	Site #1	NA	60	19	19	19	12/5/2012	No	By-product of drinking water chlorination
	Site #2			25	25	25			
Disinfectants									
Chlorine (ppm)		MRDLG = 4	MRDL = 4	1.23	0.01	1.23	continuously	No	Water additive used to control microbes
Contaminants		MCLG	AL	Your Water	Sample Date		# Samples Exceeding AL	Violation	Typical Source
Inorganic Contaminants									
Copper - action level at consumer taps (ppm)		1.3	1.3	1.15	12/7/2012		2	No[a]	Corrosion of household plumbing systems; erosion of natural deposits
Lead - action level at consumer taps (ppb)		0	15	1	12/7/2012		0	No	Corrosion of household plumbing systems; erosion of natural deposits

[a]**Action Level Exceedance - Copper:** The above table presents data from the most recent sampling event for copper in accordance with 40 CFR 141.86. In June 2012, Malmstrom AFB exceeded the 90th percentile action level for copper (i.e., more than 10% of sampling locations were above the action level). In total, 40 locations were sampled and 5 were above the action level. While this action level exceedance was not a violation, additional information for copper is provided above. As shown in the above table, sampling was accomplished again in December 2012 with results below the 90th percentile action level.

Non-Detected Contaminants – Malmstrom AFB Drinking Water System							
Contaminants	**MCLG**	**MCL**	**Your Water**	**Date**	**# Samples Exceeding MCL**	**Violation**	**Typical Source**
Total Coliform	0	1 positive monthly sample	0	monthly	0	No	Naturally present in the environment

Unit Descriptions	
Term	**Definition**
ppm	parts per million, or milligrams per liter (mg/L)
ppb	parts per billion, or micrograms per liter (µg/L)
NA	not applicable

Important Drinking Water Definitions	
Term	**Definition**
MCLG	Maximum Contaminant Level Goal: the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	Maximum Contaminant Level: the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
TT	Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: state or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

For more information please contact:

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